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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. | |
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| 10/512,415 | 10/25/2004 | Karsten Emrich | 016906-0348 | 016906-0348 6668 | |
| 22428 75 | 90 03/02/2006 | | EXAMINER | | |
| FOLEY AND | LARDNER LLP | | WALBERG, | TERESA J | |
| SUITE 500 3000 K STREE | T NW | | ART UNIT | PAPER NUMBER | |
| WASHINGTON, DC 20007 | | | 3753 | | |

DATE MAILED: 03/02/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

| ## Application No. 10/512.415 Examiner Art unit Teresa J. Walberg 3753 Teresa J. Walberg | | | | W | | | | |
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| Examiner Teress J. Walberg Teres J. | | Application No. | Applicant(s) | | | | | |
| Teress J. Walberg - The MAILING DATE of this communication appears on the cover sheet with the correspondence address — Period for Reply A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE § MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION. Esterosized the many be available under the providence of 37 CPT 1/36(), in no event, however, may a reply be timely filed I INO period for reply is specified above, the maximum statutory period will apply and vell expire SIX (8) MONTHS from the mailing date of this communication. Failure to reply willing the set or centred period for reply will, by status, cannot be some adhablood. P. 61 U.S. C. § 133. Any reply insched by the Official size than these months affect the mailing date of this communication, even if timely filed. They reduce any centred particle mailing date of this communication, even if timely filed. They reduce any centred particle mailing date of this communication, even if timely filed. They reduce any centred particle mailing date of this communication, even if timely filed. They reduce any centred particle to the maintening date of this communication, even if timely filed. They reduce any centred particle of the communication is non-final. 3 Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under Ex parte Quayle, 1935 C.D. 11, 453 O.G. 213. Disposition of Claims 4 Claim(s) | | 10/512,415 | EMRICH ET AL. | | | | | |
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| 1) Responsive to communication(s) filed on | WHICHEVER IS LONGER, FROM THE MAILING DA Extensions of time may be available under the provisions of 37 CFR 1.13 after SIX (6) MONTHS from the mailing date of this communication. If NO period for reply is specified above, the maximum statutory period w Failure to reply within the set or extended period for reply will, by statute, Any reply received by the Office later than three months after the mailing | ATE OF THIS COMMUNICATION 36(a). In no event, however, may a reply be tim vill apply and will expire SIX (6) MONTHS from cause the application to become ABANDONEI | I. lely filed the mailing date of this co D (35 U.S.C. § 133). | , | | | | |
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U.S. Patent and Trademark Office PTOL-326 (Rev. 7-05)

2) Notice of Draftsperson's Patent Drawing Review (PTO-948)

Paper No(s)/Mail Date 10/25/04.

3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)

Paper No(s)/Mail Date. _

6) Other: _____.

5) Notice of Informal Patent Application (PTO-152)

Application/Control Number: 10/512,415 Page 2

Art Unit: 3753

DETAILED ACTION

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-5, 9, and 10 are rejected under 35 U.S.C. 102(b) as being anticipated by Jacobus (2,209,974).

Jacobus discloses (see Fig. 6) a heat exchanger including at least one box (16) with at least one chamber for distributing a flowing medium, and with at least one tube bundle (28) consisting of tubes which are connected in a communicating manner to the at least one chamber (16), the chamber (16) having a tube plate (16) with orifices into which the tubes are insertable, at least one tube (28) having an at least double walled construction (48) in a region which is in the inserted state in an orifice of the tube plate (16), an inner wall of the at least one tube bearing against an outer wall of the tube, the inner wall being soldered or welded (at 42) to the outer wall, a wall of the tube being designed as a shaped sheet metal strip (36), an inner or outer wall of the tube being designed as an extruded molding (40), an inner wall having a depression (30 in Fig. 2) on its outside, the depression being elongate and a depth or width decreasing in a longitudinal direction (see Fig. 2).

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3. Claims 1, 2, 7, and 8 are rejected under 35 U.S.C. 102(b) as being anticipated by

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Dillon et al (2,143,477).

Dillon et al disclose (see Fig. 1) a heat exchanger including at least one box (10) with at least one chamber for distributing a flowing medium, and with at least one tube bundle consisting of tubes (12) which are connected in a communicating manner to the at least one chamber (10), the chamber (10) having a tube plate (Fig. 1) with orifices into which the tubes (12) are insertable, at least one tube (12) having an at least double walled construction (Fig. 1) in a region which is in the inserted state in an orifice of the tube plate (10), an inner wall (20) of the at least one tube bearing against an outer wall (12) of the tube, at least one tube has at least one connecting web (30) which connects mutually opposite regions of an inner wall, and the connecting web is constructed in one piece with the inner wall.

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Dillon et al (2,143,477) in view of Kado (5,101,887).

Dillon et al disclose the claimed structure with the exception of the tube being flat or polygonal. Kado teaches using flat tubes in a heat exchanger. It would have been obvious in view of Kado to use flat tubes in the heat exchanger of Dillon et al for improved tube strength.

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6. Claims 11-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dillon et al (2,143,477) in view of Serck Radiators (GB 622,421).

Dillon et al discloses the claimed structure with the exception of the outer wall of one tube being connected to an outer wall of an adjacent tube via at least one connecting element and a connecting element being a shaped metal strip. Serck Radiators teaches an outer wall of one tube being connected to an outer wall of an adjacent tube via at least one connecting element and a connecting element being a shaped metal strip in a heat exchanger. It would have been obvious in view of Serck Radiators to use shaped metal connecting elements in the heat exchanger of Dillon et al for improved strength of the heat exchanger.

- 7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Bay, Schultz, Yount, Maretzo, and Rexford et al are cited to show multi-layer tube ends.
- 8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Teresa J. Walberg whose telephone number is 571-272-4790. The examiner can normally be reached on M-F 9:00 5:30.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eric Keasel can be reached on 571-272-4929. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Joreson Mallord
Teresa J. Walberg
Primary Examiner

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